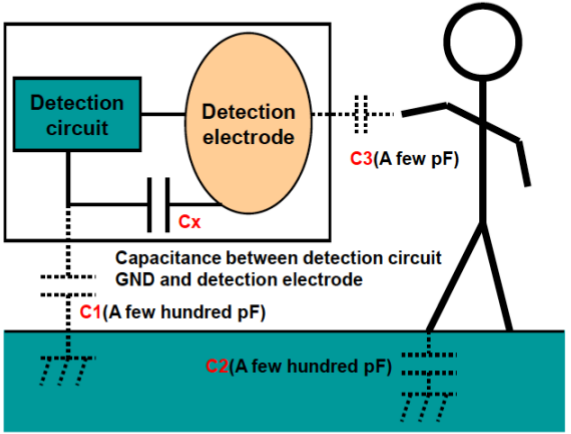


Exhibit 3

U.S. Patent No. 8,054,090 (“’090 Patent”)**Exemplary Accused Products**

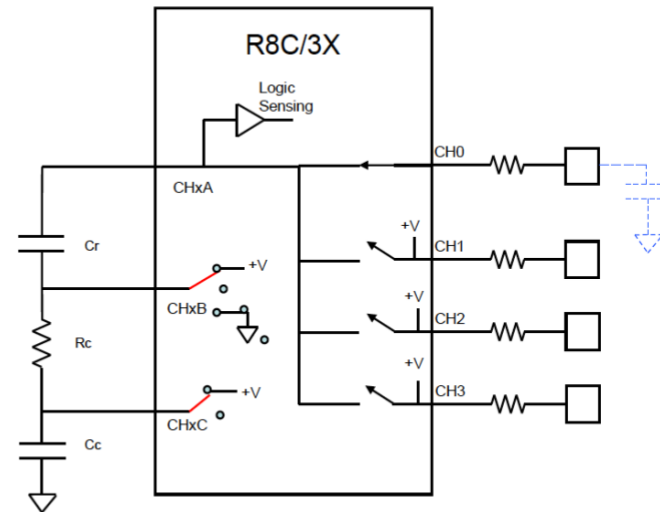
Renesas products, including at least each of the following products (and their variations) infringe at least Claim 1 of the ’090 Patent: Renesas RX microcontrollers with capacitive touch, such as RX113, RX231, RX230, and RX130. The infringement chart below is based on the RX113 microcontroller (“RX113 MCU”), which is exemplary of the infringement of the ’090 Patent.

Claim	RX113 MCU
[1pre] A method comprising:	<p>The RX113 MCU provides capacitive touch sensing functionality, including in noisy and moist environments.</p> <p>In order to support the vast variety of design, material, and overlay shape demands, changes in capacitance need to be detected with high sensitivity. Renesas has succeeded in vastly improving sensitivity and noise immunity by developing a circuit for converting electrostatic capacitance into current and amplifying and digitizing this value. This solution has almost zero effect from noise.</p> <p>See https://www.renesas.com/us/en/solutions/key-technology/human-interface/touch-sensor-system2.html</p>

	<h3 style="text-align: center;">Capacitive Touch Background</h3> <ul style="list-style-type: none"> • Senses change in system capacitance • Ground based system detection shown below <p style="text-align: center;">Detects C_x = (Combined capacitance of C_1, C_2 and C_3)</p>  <p>The diagram illustrates the capacitive touch detection mechanism. A 'Detection circuit' is connected to a 'Detection electrode'. The electrode is capacitively coupled to a stick figure representing a user, labeled C_3 (A few pF). The electrode is also capacitively coupled to a ground plane below, labeled C_2 (A few hundred pF). The detection circuit is capacitively coupled to ground, labeled C_1 (A few hundred pF). The combined capacitance is labeled C_x. The text 'Capacitance between detection circuit GND and detection electrode' is also present.</p> <p style="text-align: center;">5</p> <p style="text-align: right;">Everywhere you imagine. RENESAS</p> <p>See Renesas Touch Solution, at p. 5. http://renesasrulz.com/cfs-file.ashx/___key/telligent-evolution-components-attachments/13-21-00-00-00-00-31/R8C_5F00_33T_5F00_Touch.pdf</p> <p>See https://www.renesas.com/en-us/doc/products/mpumcu/apn/rx/002/r30an0218ej0100_rx113.pdf at 4</p>
[1a] grounding a first plate of a charge-accumulation capacitor;	The RX113 MCU grounds a first plate of a charge-accumulation capacitor.

Simplified Sensing IP (1)

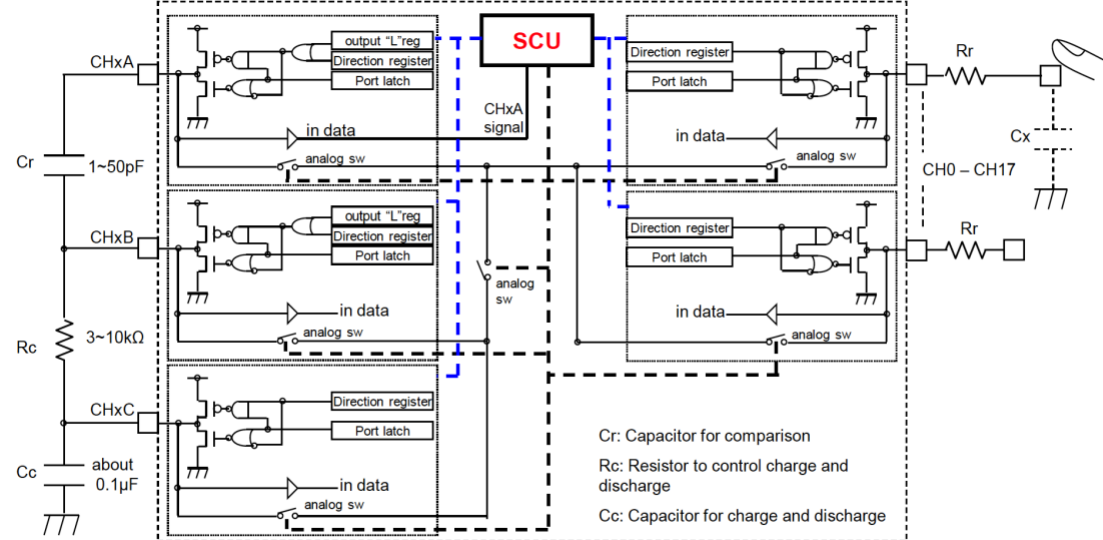
1. Charge C_c



9

Everywhere you imagine. **RENESAS**

See Renesas Touch Solution, at p. 9. http://renesasrulz.com/cfs-file.ashx/___key/telligent-evolution-components-attachments/13-21-00-00-00-00-31/R8C_5F00_33T_5F00_Touch.pdf



See Renesas Touch Solution, at p. 16. http://renesasrulz.com/cfs-file.ashx/___key/telligent-evolution-components-attachments/13-21-00-00-00-00-31/R8C_5F00_33T_5F00_Touch.pdf

2.2 Capacitance-Current Conversion

Switched capacitor filter (SCF) is used as the way of converting the amperage described in the chapter 2.1 from the capacitance that generates between human body and electrode. SCF is structured by capacitor, power, two switches and the control signal to toggle two switches ON/OFF alternatively.

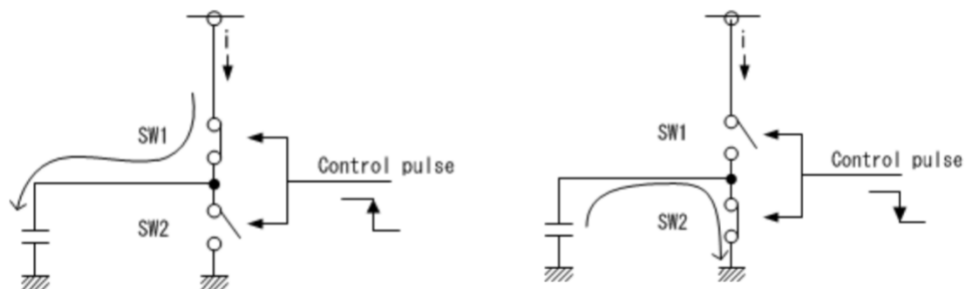


Figure 2-4

SCF configuration and Charge and discharge operation of capacitor

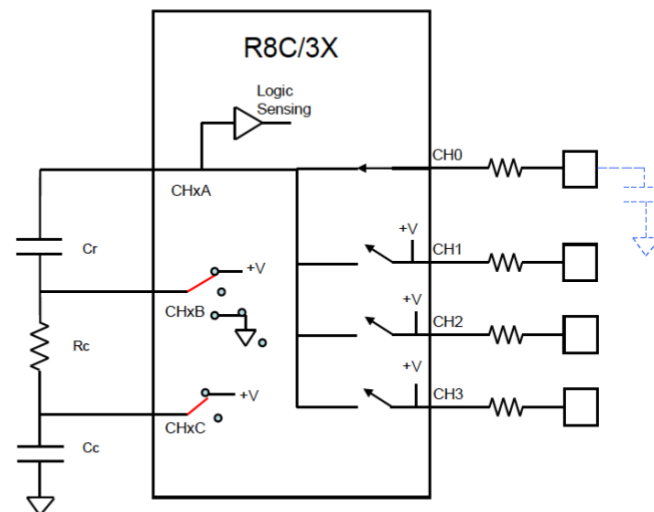
SW1 and SW2 are controlled by the pulse as exclusive control when one turns ON and the other turns OFF. When SW1 turns ON and SW2 turns OFF, the capacitor is charged as described in Figure 2-4 (the left). After switching SW1 to OFF, SW2 to ON, the capacitor is discharged as describe in Figure 2-4(the right).

See https://www.renesas.com/en-us/doc/products/mpumcu/apn/rx/002/r30an0218ej0100_rx113.pdf at 4

[1b] injecting, through a resistor coupled to a voltage source, a predetermined amount of charge onto a charge-measurement capacitor;

The RX113 MCU injects, through a resistor coupled to a voltage source, a predetermined amount of charge onto a charge-measurement capacitor.

Simplified Sensing IP (1)

1. Charge C_c 

9

Everywhere you imagine. **RENESAS**

See Renesas Touch Solution, at p. 9. http://renesasrulz.com/cfs-file.ashx/___key/telligent-evolution-components-attachments/13-21-00-00-00-00-31/R8C_5F00_33T_5F00_Touch.pdf

The first step in measuring a sensor is to charge C_c . The diagram above shows this happening by connecting $CHxB$ and $CHxC$ to $V+$.

See Renesas Touch Solution, at p. 9. http://renesasrulz.com/cfs-file.ashx/___key/telligent-evolution-components-attachments/13-21-00-00-00-00-31/R8C_5F00_33T_5F00_Touch.pdf

2.2 Capacitance-Current Conversion

Switched capacitor filter (SCF) is used as the way of converting the amperage described in the chapter 2.1 from the capacitance that generates between human body and electrode. SCF is structured by capacitor, power, two switches and the control signal to toggle two switches ON/OFF alternatively.

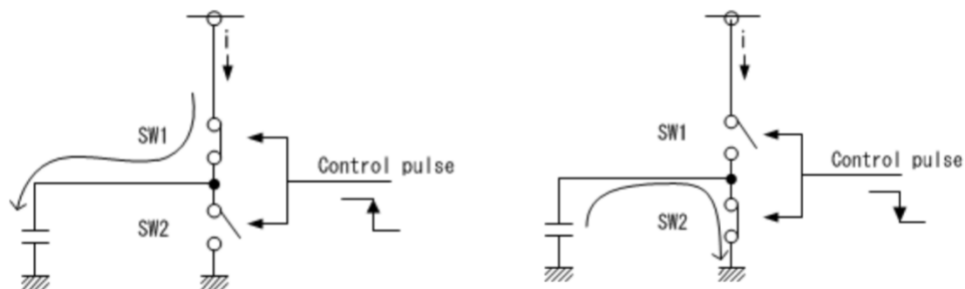


Figure 2-4

SCF configuration and Charge and discharge operation of capacitor

SW1 and SW2 are controlled by the pulse as exclusive control when one turns ON and the other turns OFF. When SW1 turns ON and SW2 turns OFF, the capacitor is charged as described in Figure 2-4 (the left). After switching SW1 to OFF, SW2 to ON, the capacitor is discharged as describe in Figure 2-4(the right).

See https://www.renesas.com/en-us/doc/products/mpumcu/apn/rx/002/r30an0218ej0100_rx113.pdf at 4

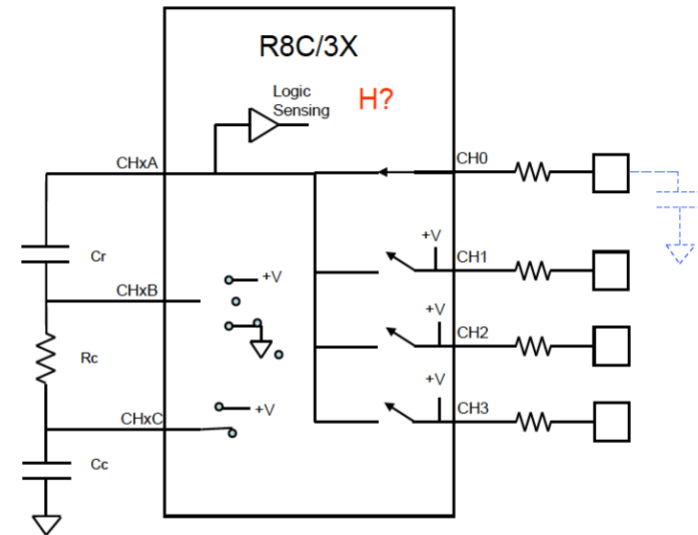
[1c] transferring an amount of charge accumulated on a second plate of the charge-accumulation capacitor to a first plate of the charge-measurement capacitor, the charge having accumulated on the second plate of the charge-accumulation capacitor due at least in part to noise; and

The RX113 MCU transfers an amount of charge accumulated on a second plate of the charge-accumulation capacitor to a first plate of the charge-measurement capacitor, the charge having accumulated on the second plate of the charge-accumulation capacitor due at least in part to noise.

Simplified Sensing IP (2)

3. Wait very short time
4. Check logic ChxA

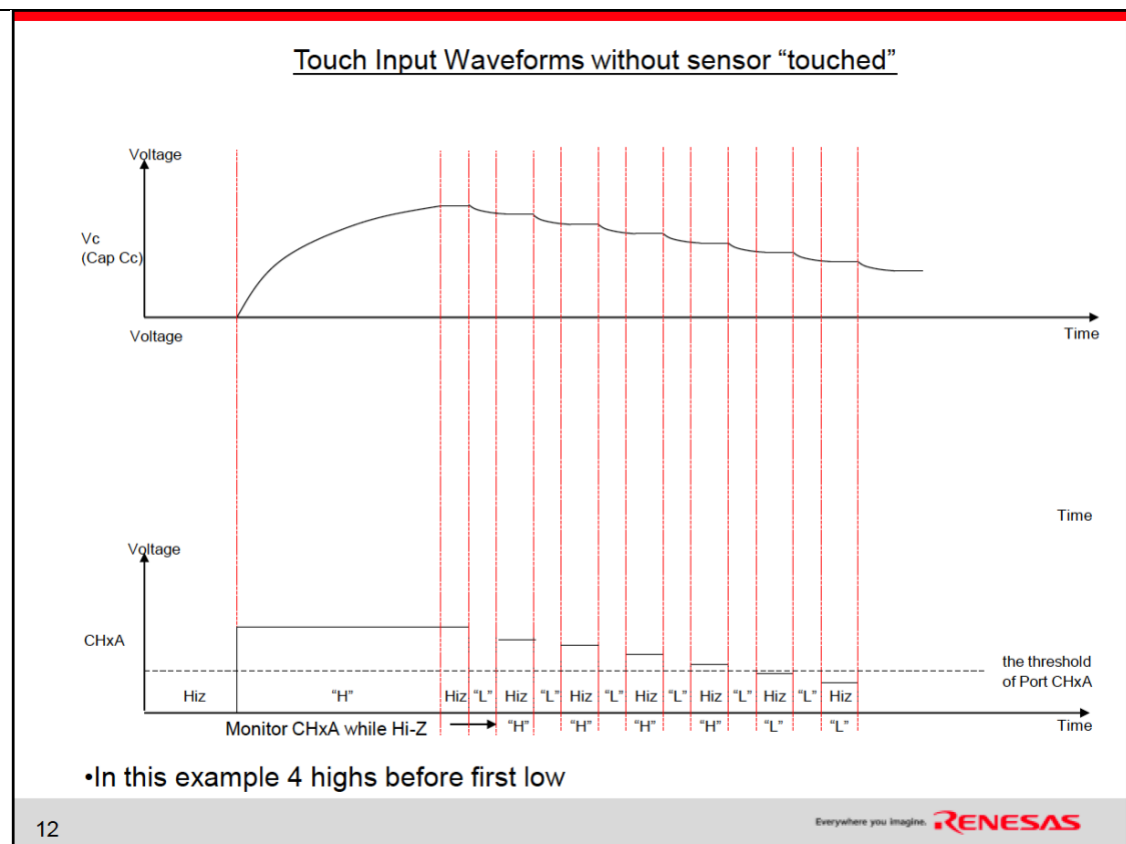
$$V_{ChxA} = \frac{C_r}{C_r + C_x} \times V_C$$



11

Everywhere you imagine. **RENESAS**

See Renesas Touch Solution, at p. 11. http://renesasrulz.com/cfs-file.ashx/___key/telligent-evolution-components-attachments/13-21-00-00-00-00-31/R8C_5F00_33T_5F00_Touch.pdf



See Renesas Touch Solution, at p. 12. http://renesasrulz.com/cfs-file.ashx/___key/telligent-evolution-components-attachments/13-21-00-00-00-00-31/R8C_5F00_33T_5F00_Touch.pdf

The waveform shows the voltage on C_c as it is first charged then briefly discharged then isolated by the Hi-z inputs. The $CHxA$ input voltage is also shown as it is driven low, then tested when configured as an input. The number of discharge cycles that occurs before the logic level input is tested as a low is influenced by a touch on the sensor as shown on the next page

	<p>See Renesas Touch Solution, at p. 12. http://renesasrulz.com/cfs-file.ashx/___key/telligent-evolution-components-attachments/13-21-00-00-00-00-00-31/R8C_5F00_33T_5F00_Touch.pdf</p>
<p>[1d] determining, through a measured voltage across the charge-measurement capacitor, the amount of charge.</p>	<p>The RX113 MCU determines, through a measured voltage across the charge-measurement capacitor, the amount of charge.</p> <div data-bbox="768 448 1892 1289"> <p style="text-align: center;"><u>Touch Input Waveforms when Sensor is touched</u></p> <p style="text-align: center;">•Now with touch only 2 highs before first low</p> </div> <p>See Renesas Touch Solution, at p. 13. http://renesasrulz.com/cfs-file.ashx/___key/telligent-evolution-components-attachments/13-21-00-00-00-00-00-31/R8C_5F00_33T_5F00_Touch.pdf</p>

	<p>Since a touch on the sensor adds capacitance to the sensor circuit, the voltage on Cc decays faster when the sensor is touched compared to when it is not touched. The number of high test conditions will decrease and this can be used to determine a “touch”</p> <p>See Renesas Touch Solution, at p. 13. http://renesasrulz.com/cfs-file.ashx/___key/telligent-evolution-components-attachments/13-21-00-00-00-00-31/R8C_5F00_33T_5F00_Touch.pdf</p>
--	---